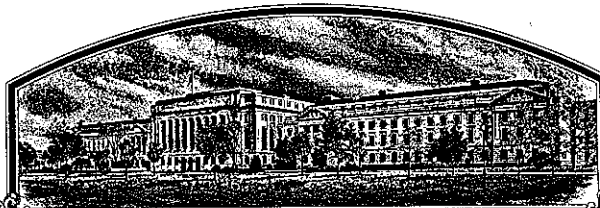


No.

8200184



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

*Koninklijk Kweekbedrijf en
Zaadhandel - D. J. van der Have B.V.*

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXHIBIT IT TO OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (PLANT VARIETY PROTECTION ACT, 35 U.S.C. 2132, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PERENNIAL RYEGRASS

'Ranger'



*In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington
this 25th day of July in
the year of our Lord one thousand nine
hundred and eighty-four.*

Attest:

Kenneth A. ...
Commissioner
Plant Variety Protection Office
Livestock, Meat, Grain & Seed
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

FORM APPROVED: OMB NO.0581-0055

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S) Koninklijk Kweekbedrijf en Zaadhandel D.J. van der Have B.V.		2. TEMPORARY DESIGNATION HE 129		3. VARIETY NAME R A N G E R	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) P.O. Box 1 4420 AA Kapelle Netherlands		5. PHONE (Include area code) 1135 - 1254		FOR OFFICIAL USE ONLY PVPO NUMBER 8200184	
6. GENUS AND SPECIES NAME Lolium perenne		7. FAMILY NAME (Botanical) -		FILING DATE 9/22/82 TIME 11:30 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
8. KIND NAME Perennial ryegrass		9. DATE OF DETERMINATION 1975		FEES RECEIVED AMOUNT FOR FILING \$ 500.00 DATE 9/22/82 AMOUNT FOR CERTIFICATE \$ 250.00 DATE 5/30/84	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation				12. DATE OF INCORPORATION 8th March 1973	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Netherlands					
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Mr. Stan Rollin 6802 Orem Drive Maryland 20810-20707 Laurel					
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED					
a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)		c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)			
b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement		d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of the Variety			
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <input type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input checked="" type="checkbox"/> No					
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified			
18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES? Netherlands 78-1-6 Germany 79-12-12 Sweden 79-12-28 <input checked="" type="checkbox"/> Yes (If "Yes," give names of countries and dates) United Kingdom 77-11-25 Denmark 79-12-5 <input type="checkbox"/> No					
19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No					
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					

SIGNATURE OF APPLICANT

DATE

Ir.D.J. Glas

SIGNATURE OF APPLICANT

DATE

82-9-14.

INSTRUCTIONS

General: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Department of Agriculture, Agricultural Marketing Service, Livestock, Meat, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

Item

- 9 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 14a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 14b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 14d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 15 If "Yes" is specified (*seed of this variety be sold by variety name only as a class of certified seed*) the applicant may **NOT** reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 16 See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



Exhibit A. Origin and Breeding History of the variety.

'Ranger' perennial ryegrass is an advanced generation synthetic cultivar selected from the progenies of seven clones. The seven clones were developed at the New Jersey Agricultural Experiment Station, New Brunswick, USA in a recurrent selection program to improve resistance to crown rust and a winter brown blight disease.

Crosses were made from plants selected from 'Diplomat', 'Pennfine', Omega, Syn F (a late maturing synthetic developed by the New Jersey Agricultural Experiment Station), 'Manhattan', K-79 (a 80-clone synthetic derived from germplasm collected in Central Park in New York City), and L4H (a selection from a school playground in Baltimore, Maryland). Seedlings from these crosses were screened for resistance to crown rust incited by Puccinia coronata Corda var. Lolii Brown. Four thousand of the most resistant plants were transferred to a spaced-plant nursery at Adelphia, New Jersey. Over 200 clones were selected from this nursery on the basis of uniform maturity, attractive appearance, freedom from disease, and promising seed yield potential. Polycross progenies of these clones were seeded in turf trials and evaluated for attractive appearance, resistance to the winter brown blight disease caused by Drechslera spp., turf performance, and improved mowing qualities. Tillers were subsequently removed from turf plots of the seven highest ranking progenies and transferred to an isolated, spaced-plant nursery. The least promising plants were removed from this nursery prior to anthesis. Seed was then harvested from the remaining 407 plants. The maternal origin of these plants were as follows:

1. R-4 Manhattan clone x Pennfine selection	135 plants
2. R-3 Pennfine selection	64 plants
3. R-1 Diplomat selection	56 plants
4. R-2 Syn F selection	44 plants
5. R-5 Omega selection	42 plants
6. R-7 Diplomat selection	36 plants
7. R-6 Diplomat selection	30 plants

A subsequent cycle of reselection was made in a spaced-plant nursery, grown in Rilland, the Netherlands: 5% of the plants were removed before flowering. Syn-1 seed was harvested from 2000 plants in 1977. Syn-2 seed was produced in 1978.

Syn-1 and Syn-2 seed of Ranger were compared as spaced plants. No variants were observed in 2 generations of reproduction and the variety proved to be stable during the 2 generations of reproduction.

In 1978 it was decided to produce enough breeder seed for the anticipated need over the next 15 years and to release the variety Ranger.

Exhibit B. Novelty Statement.**MOST CLOSELY**

8/11 10/20/83

Ranger resembles the variety Yorktown II but differs from it in the following characteristics:

- plant height at emergence. Ranger is taller than Yorktown II
 - length of flag leaf: flag leaves of Ranger are taller than those of Yorktown II
 - mature plant height: Ranger is taller than Yorktown II
 - spike length : the spikes of Ranger are taller than those of Yorktown II
 - weight of 10 spikes: the spikes of Ranger are heavier than those of Yorktown II
- Data from Plant Breeding Station D.J. van der Have B.V., Rilland.
Measured on 60 plants in 3 replicates.
Mature plant height (cm)

	I	II	III	Mean	LSD 0.05
Ranger	73	73	73	73	4.9
Yorktown II	69	68	67	68	
Manhattan	82	83	86	84	
Loretta	67	67	74	69	
Pelo	83	85	79	82	

Spike length (mm)

	I	II	III	Mean	LSD 0.05
Ranger	19.9	20.9	21.0	20.6	1.2
Yorktown II	18.9	18.8	18.6	18.8	
Manhattan	23.0	22.8	23.4	23.1	
Loretta	21.5	21.3	23.3	22.0	
Pelo	22.0	22.7	21.3	22.0	

Weight of 10 spikes (g)

	I	II	III	Mean	LSD 0.05
Ranger	3.2	3.2	3.4	3.3	0.4
Yorktown II	3.1	2.5	2.5	2.7	
Manhattan	3.4	3.2	3.0	3.2	
Loretta	2.8	3.1	3.1	3.0	
Pelo	2.8	2.9	2.5	2.7	

- Data provided by the Bundessortenamt, Hannover, Germany.

	Ranger	Yorktown II	LSD 0.01
Plant height at ear emergence (cm)	36.63	30.16	2.94
Length of flag leaf (mm)	145.50	113.83	13.95
Mature plant height (cm)	64.57	59.32	3.95
Spike length (cm)	16.68	14.30	1.41

Measured on 60 plants per variety .

Ranger has a significant longer plant height at ear emergence, a longer flag leaf, a longer plant height at maturity and a longer spike.

- Data provided by the Statens Forsogsstation, Tystofte, Denmark.

	Ranger	Barloft	
Mature plant height (cm)	80.88	66.47	P < 0.001
Spike length (cm)	16.96	14.72	P < 0.001

Ranger has a significant longer plant height at maturity and a longer spike.

FORM GR-470-36

(9-76)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

GRAIN DIVISION

HYATTSVILLE, MARYLAND 20782

FORM APPROVED: OMB NO. 40-R3712

NO. NEW 1000 SEED

GE. NEW SEEDS

NW. 10.14" MID. 14"

OBJECTIVE DESCRIPTION OF CULTIVARS

RYEGRASS

(Lolium spp.)

NAME OF APPLICANT(S) Koninklijk Kweekbedrijf en Zaadhandel

D.J. van der Have B.V.

VARIETY NAME OR TEMPORARY DESIGNATION
R A N G E R

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)

Box 1, 4420 AA Kapelle.

FOR OFFICIAL USE ONLY

PVPO NUMBER

8200184

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in first box (e.g. 089 or 09) when number is either 99 or less or 9 or less. Descriptions of characters should represent those that are typical for the variety. Ranges may be given also. Measured data should be for SPACED PLANTS. Give additional description for all characteristics that cannot be adequately described in the form below. Append all pertinent comparative trial and evaluation data.

1. SPECIES:

2 1 = L. MULTIFLORUM (annual or Italian; includes Westerwoldicum) 2 = L. PERENNE (perennial) 3 = L. RIGIDUM (includes Wimmera)
4 = HYBRID (of species) 5 = OTHER (Specify)

2. PLOIDY:

1 1 = DIPLOID 2 = TETRAPLOID 3 = OTHER (Specify)

3. DURATION:

3 1 = ANNUAL OR BIENNIAL 2 = SHORT LIVED PERENNIAL (3-4 years) 3 = PERENNIAL (more than 4 years)

4. MATURITY (50% HEADED)

1 = GULF 2 = WIMMERA 62 3 = LINN 4 = PELO
5 = NORLEA 6 = ABERYSTWYTH S-23 7 = MANHATTAN 8 = PENNFINE

Use standards from above for comparison:

3 1 = VERY EARLY 3 = EARLY 6 DAYS EARLIER THAN 7 STANDARD CULTIVAR
5 = MEDIUM 7 = LATE 7 STANDARD CULTIVAR
9 = VERY LATE 6 DAYS LATER THAN 7 STANDARD CULTIVAR

5. MATURE PLANT HEIGHT (Use standard cultivars from above):

7 3 CM. HIGH 1 1 CM. SHORTER THAN 7 STANDARD CULTIVAR
CM. TALLER THAN 7 STANDARD CULTIVAR

6. PERCENT WINTER DAMAGE (estimated as percent of the area appearing dead). Use standard cultivars from above for comparison:

PERCENT DAMAGE OF APPLICATION CULTIVAR
PERCENT DAMAGE OF STANDARD CULTIVAR

7. TURF DENSITY Use standard cultivars from above:

2 9 7 TILLERS PER 100 SQ. CM.
LESS TILLERS PER 100 SQ. CM. THAN 7 STANDARD CULTIVAR
MORE TILLERS PER 100 SQ. CM. THAN 7 STANDARD CULTIVAR

8. FLAG LEAF (at full growth) Use standard cultivars from above:

1 2 0 CM. LENGTH (from ligule to tip) 4 8 MM. WIDTH (at widest point)
CM. SHORTER THAN 7 STANDARD CULTIVAR 7 FLAG LEAF AT BOOT STAGE:
CM. LONGER THAN 7 STANDARD CULTIVAR
MM. NARROWER THAN 7 STANDARD CULTIVAR
MM. WIDER THAN 7 STANDARD CULTIVAR

1 = DEFLEXED
3 = RECURVED
5 = HORIZONTAL
7 = SEMI-ERECT
9 = ERECT

8200184

FORM GR-470-36 (9-76)

PAGE 2 OF 3

STANDARD CULTIVARS

1 = GULF
5 = NORLEA2 = WIMMERA 62
6 = ABERYSTWYTH S-233 = LINN
7 = MANHATTAN4 = PELO
8 = PENNFINE

9. LEAVES:

1 = LEAVES ROLLED IN YOUNG SHOOTS

3 VERNATION: 2 = LEAVES SEMI-ROLLED (folded with rolled edges)

3 = LEAVES FOLDED IN YOUNG SHOOTS

1 0 0

% PLANTS WITH ANTHOCYANIN IN LOWER LEAF SHEATH

3

FOLIAGE COLOR:

1 = YELLOW GREEN
2 = MEDIUM GREEN
3 = BLUE GREEN

10. SPIKE:

2 0 6

MM. SPIKE LENGTH (tip to internode below lowest floret)

2 5

MM. SHORTER THAN

7

USE STANDARD CULTIVARS FROM ABOVE

1 1

MM. LONGER THAN

1

3 3 0 0

MG. PER TEN SPIKES (trimmed to internode below lowest floret)

1 1 1 1

MG. LIGHTER PER TEN SPIKES THAN

1

USE STANDARD CULTIVARS FROM ABOVE

1 0 0

MG. HEAVIER PER TEN SPIKES THAN

7

1 7

FLORETS PER SPIKELET

PERCENTAGE OF PLANTS WITH:

RACHIS:

1 0 0

% SMOOTH

1 0 0

% ROUGH

SPIKE COLOR:

1 0 0

% GREEN

1 0 0

% PURPLE

LEMMA:

1 0 0

% AWNED

1 0 0

MM. AWN LENGTH

7 7

MM. GLUME LENGTH

1

1 = SPIKELET LENGTH NEARLY EQUAL TO OUTER GLUMES
2 = SPIKELET LENGTH MUCH LONGER THAN OUTER GLUMES

11. COLEOPTILE:

1 0 0

% PLANTS WITH ANTHOCYANIN IN COLEOPTILE

12. ANTHOR COLOR:

1 0 0

% PLANTS WITH WHITE ANTHORS

1 0 0

% PLANTS WITH YELLOW ANTHORS

1 0 0

% PLANTS WITH PURPLE ANTHORS

13. ROOT AND PLANT CHARACTERS:

1 0 0

% PLANTS WITH PROSTRATE GROWTH HABIT

1 0 0

% PLANTS WITH FLUORESCENT ROOTS

1 0 0

% PLANTS WITH UPRIGHT GROWTH HABIT

14. SEED:

1 7 1 0

MG. PER 1,000 SEED

4 3 9

MM. TOTAL LENGTH OF 10 SEEDS

1 1 2

MM. TOTAL WIDTH OF TEN SEEDS

8200184

FORM GR-470-36 (9-76)

PAGE 3 OF 3

15. DISEASE (0 = NOT TESTED, 2 = HIGHLY SUSCEPTIBLE, 4 = MODERATELY SUSCEPTIBLE, 6 = MODERATELY RESISTANT, 8 = HIGHLY RESISTANT):

<input type="checkbox"/> 8 CROWN RUST (<i>Puccinia coronata</i>)	<input type="checkbox"/> 8 DOLLAR SPOT (<i>Sclerotinia</i>)	<input type="checkbox"/> 8 BROWN PATCH (<i>Rhizoctonia</i>)
<input type="checkbox"/> 8 LEAF SPOT (<i>Helminthosporium</i>)	<input type="checkbox"/> 8 MILDEW	<input type="checkbox"/> OTHER (Specify) _____
<input type="checkbox"/> 0 SNOW MOLD (<i>Typhula</i>)	<input type="checkbox"/> 6 RED THREAD (<i>Corticium</i>)	

16. INSECT (0 = NOT TESTED, 2 = HIGHLY SUSCEPTIBLE, 4 = MODERATELY SUSCEPTIBLE, 6 = MODERATELY RESISTANT, 8 = HIGHLY RESISTANT):

☐ 6 (Specify) Billbug (*Sphenopharus parvulus*)

17. GIVE RESEMBLANCE VALUE IN LEFT COLUMN AND VARIETY CODE NUMBER IN RIGHT COLUMN FOR VARIETY WITH WHICH COMPARISON IS MADE (1 = LESS THAN, 2 = SAME AS, 3 = MORE ERECT, MORE RESISTANT, DENSER, MORE PERSISTENT, DARKER OR GREATER HEIGHT.):

RESEMBLANCE	CHARACTER	SIMILAR VARIETY
<input type="checkbox"/> 2	PLANT HABIT (erectness)	<input type="checkbox"/> 7 1 = GULF
<input type="checkbox"/> 3	TILLERING	<input type="checkbox"/> 7 2 = WIMMERA 62
<input type="checkbox"/> 3	WINTER HARDINESS	<input type="checkbox"/> 7 3 = LINN
<input type="checkbox"/> 3	HIGH TEMP. STRESS RESISTANCE	<input type="checkbox"/> 7 4 = PELO
<input type="checkbox"/> 3	TURF PERSISTENCE	<input type="checkbox"/> 7 5 = NORLEA
<input type="checkbox"/> 3	PLANT COLOR	<input type="checkbox"/> 7 6 = ABERYSTWYTH S-23
<input type="checkbox"/> 1	VERTICAL SEEDLING GROWTH RATE	<input type="checkbox"/> 7 7 = MANHATTAN
<input type="checkbox"/> 3	CROWN DENSITY	<input type="checkbox"/> 7 8 = PENNFINE
<input type="checkbox"/> 3	MOWER SHREDDING RESISTANCE	<input type="checkbox"/> 7

18. GIVE AREA OF ADAPTATION AND INTENDED USE: Cool-humid regions and overseeding in the South

19. GIVE AREA TEST RESULTS PRESENTED FROM: Rilland, the Netherlands.

COMMENTS:

Exhibit D. Additional Description of the Variety.

Ranger shows a very good resistance to crown rust (*Puccinia coronata*) and a good resistance to red thread (*Lactisaria fuciformis*).

The variety shows a very good recovery after severe summer droughts.

Its resistance to artificial wear and tear is very good. The RIVRO/Wageningen has obtained the following figures in an experiment conducted over a number of years:

Treading resistance (scale 1-9, 9 = best)

Ranger	8.5
Barloft	7.5
Manhattan	8.5
Loretta	7.5
Barry	8.0